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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/741,809	12/19/2003	Mark K. Young	9005/14	2597
27774	7590	03/15/2006	EXAMINER	
MAYER, FORTKORT & WILLIAMS, PC 251 NORTH AVENUE WEST 2ND FLOOR WESTFIELD, NJ 07090				KIANNI, KAVEH C
ART UNIT		PAPER NUMBER		
		2883		

DATE MAILED: 03/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/741,809	YOUNG ET AL. 
	<b>Examiner</b>	<b>Art Unit</b>
	Kianni C. Kaveh	2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 19 December 2003.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-43 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1,2,4,5,15-25,27,28 and 38-43 is/are rejected.

7)  Claim(s) 1,3,6-14,26 and 29-37 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 24 May 2004 is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_.  
\_\_\_\_\_

## DETAILED ACTION

### Allowable Subject Matter

Claims 3, 6-14, 26, 29-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. These claims are allowable because the prior art of record, taken alone or in combination, fails to disclose or render obvious the limitations of the claims in combination with the rest of the limitations of the base claim.

### Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

*This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).*

Claims 1-2, 4-5, 15-25, 27-28 and 38-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giles (US 5481391).

Regarding claims 1, and 19-24, and 42-43, Giles teaches in an external pressure vessel providing protection from external pressure in an undersea environment to a hermetically sealed optical amplifier module located therein (shown in at least fig. 1, item amplifier 12, in the middle, within hermetically sealed housing, see also abstract and col. 4, 4<sup>th</sup> parag.), said hermetically sealed module comprising:

at least one optical amplifier (see col. 3, lines 52-60);

a hermetically sealed housing for containing therein said at least one electrical and/or optical amplifier (shown in at least fig. 1, item amplifier 12, in the middle, within hermetically sealed housing, see also col. 4, 4<sup>th</sup> parag. and col. 4, 4<sup>th</sup> parag.),

said housing having a retaining element for retaining the housing within the external pressure vessel 19 (see fig. 1, item 19 and col. 4, 4<sup>th</sup> parag.),

a plurality of ports for conveying into the housing 12, in an hermetically sealed manner 36, at least one optical fiber 34 and a conductor 38 incorporated in an undersea optical fiber cable 14, said conductor 38 supplying electrical power to the electrical and/or optical amplifier (see fig. 1 and 1a-b, item ports containing fibers 34 and col. 6, 2<sup>nd</sup> parag.);

and at least one conductive terminal located in the housing for establishing electrical contact with the conductor traversing each of the plurality of ports 16,18, said conductive terminal supplying electrical power from the conductor to said at least one

optical amplifier (see at least fig. 3, item terminal from which laser 80 of the amplifier 60 gets power, via conductor cable, see col. 6, 2<sup>nd</sup> parag.; see also supplied power by the conductor to power lasers 102, 106 and 132 for optical amplifiers within the housing through col. 9, 2<sup>nd</sup> parag.); wherein said at least one optical amplifier 12 comprises a plurality of optical amplifiers 114,138.

However, Giles does not specifically teach wherein said above limitations in one single embodiment and that the optical amplifier/electrical-component includes a circuit board located in the housing includes at least one optically active element mounted to the circuit board. Nevertheless, Giles's amplifier module located within hermetically sealed housing has optoelectronics such as shown in fig. 15 which can be conventionally mounted in a circuit board. Thus, would have been obvious to a person of ordinary skill in the art when the invention was made to combine different embodiments of Giles' teachings and to modify Giles's optoelectronic components by placing them in a conventional circuit board since different embodiments of Giles's teachings are compatible with each other and since such arrangement would reduce optoelectronic noise especially in the amplifier module (see col. 1, lines 53- col. 2, line 42).

Regarding claims 2, 4-5, and 15-18, 21-23, 25, 27-28, and 38-41 Giles further teaches a pressure seal located between each of the ports and the conductor 38 (see fig. 1 and 1a-b, item seals such as 32 and 40 located between the fibers and conducting wires); wherein said undersea optical fiber cable further comprises an electrically insulating sheath 36 surrounding the optical fiber and the conductor, said

pressure seal being located between the port and the electrically insulating sheath (see fig. 1 and 1a-b, item seals such as 32 and 40 being located between the port and the electrically insulating sheath); wherein said conductive terminal includes a through hole traversed by said at least one optical fiber (shown in at least fig. 3, item hole of the terminal at top of 82 which houses laser 80 which empowered by the conductor);

a fiber tray located in the housing for supporting optical fiber employed in the optical amplifier/coupled to the electrical component (see at least fig. 3 and 14, item 82 is a supporting 'tray' for the fiber 76 and see electric components such as 102/114; also any item such as a ferrule/sheath containing the fiber is a support-tray for the fiber); a plurality of receptacles 64 are integrally formed with said fiber tray sized to receive a passive optical component 70 employed in the optical amplifier 60/electrical-component132/138; wherein said at least one optical amplifier comprises a rare-earth doped optical amplifier (see at least abstract);

wherein said rare-earth doped optical amplifier includes a rare-earth doped fiber for imparting gain to an optical signal propagating therethrough, a pump source 102 for supplying pump power to the rare-earth doped fiber, and a coupler 120/134 for coupling the pump power to the rare-earth doped fiber 130, said rare-earth doped fiber and said coupler 134 each residing in one of the plurality of receptacles (shown n at least fig. 14, items 102 and 134/120).

***Response to Arguments and Amendment***

Applicant's argument filed on 1/6/06 have been fully considered but they are not persuasive.

Applicant alleges (page 9, last parag.-col. 10, 1<sup>st</sup> parag.) that Giles does not teach a hermetically sealed housing for containing an optical amplifier. Examiner responds that such limitation is ***clearly*** taught by Giles (shown in at least fig. 1, item amplifier 12, in the middle, within hermetically sealed housing, see also col. 4, 4<sup>th</sup> parag. and col. 4, 4<sup>th</sup> parag.).

- ***Applicant is kindly reminded to appropriately narrow the scope of the invention in order to allow the case.***

***THIS ACTION IS MADE FINAL***

This action in response to applicant's response/amendment made FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory

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action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Cyrus Kianni whose telephone number is (571) 272-2417.

The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (571) 272-2415.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

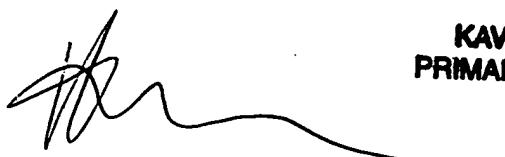
(703) 872-9306 (for formal communications intended for entry)

**or:**

Hand delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.

March 14, 2006



**KAVEH KIANNI  
PRIMARY EXAMINER**